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FIG. 8 is a flowchart illustrating one sample method **800** for a contextual audio system using a variety of contexts or factors to adjust audio output to a user. It should be appreciated that many of the operations discussed with respect to this figure are optional and may be omitted in some embodiments. Likewise, additional operations may be performed in other embodiments.

The method **800** begins in operation **810**, in which an application is started, initiated, executed, or the like on a suitable electronic device. The electronic device may be a wearable electronic device **110**, a sensing device **120**, or another electronic device in communication with either or both of the wearable electronic device and sensing device. The application may be an exercise application, a driving application, an application associated with a vehicle, or the like. It should be noted that this operation is optional and may be omitted or ignored in some embodiments.

In operation **820**, the embodiment detects a location or otherwise receives positional data. Examples of positional data include: a location of a user, or a device associated with a user, relative to a landmark, object, or the like; an absolute location of a user, or a device associated with a user (such as GPS data or other methods of determining latitude and longitude); a position of a user on an object; a facing of a user or a device associated with a user; a balance of a user; a tilt or angle of a user's body, whether absolute or relative to an object such as a sensing device; and so on. The positional data may be determined by a sensing device **120**. In some embodiments, the sensing device **120** may be the wearable audio device **110**. Positional data may be supplied by a position sensor **300**.

In operation **830**, the embodiment determines a user's motion. The user's motion may be determined from motion sensor **310** data or may be determined based on successive sets of positional data from the position sensor **300**. Velocity and/or acceleration may likewise be determined in operation **830**; the terms "velocity" and "speed" are used interchangeably herein. Operation **830** is optional and may be omitted in some embodiments.

In operation **840**, the embodiment determines if the user's location (or other position) is one where the user should be alert or otherwise prompted, whether for the user's safety, the safety of others, to improve the user's performance, or the like. If not, the method **800** ends in end state **895**. If so, the method **800** proceeds to operation **850**.

In operation **850** the embodiment adjusts audio output from the wearable audio device **110**. As discussed elsewhere herein, audio adjust may take the form of stopping, pausing, muting, lowering, or raising an audio output as well as outputting specific feedback, messages, prompts, or the like. Audio output may be adjusted to one or more wearable audio devices **110**, again as discussed herein. As one example, audio may be adjusted to one of a pair of earbuds in certain contexts.

In operation **860**, the embodiment determines if the audio being outputted is over. If so, the method **800** terminates in end state **895**. Otherwise, the method proceeds to operation **870**. Operation **860** is optional and may be omitted in some embodiments.

In operation **870**, the embodiment determines whether a user's location or other position changes. If not, the method **800** terminates in end state **895**. Otherwise the method **800** proceeds to operation **880**. Operation **870** is optional and may be omitted in some embodiments.

In operation **880**, the embodiment determines if the application initiated in operation **810** has ended. If so, then adjusting the audio output of the wearable audio device **110**

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is no longer necessary and the method **800** ends at end state **895**. Otherwise the method **800** proceeds to operation **890**. Operation **880** is optional and may be omitted in some embodiments.

In operation **890**, the embodiment determines whether a user's (or a device's) rate of motion is below a threshold. If the velocity is below the threshold, then the method **800** terminates in end state **895**. If not, then the method **800** returns to operation **820**. It should be appreciated that some embodiments may determine whether velocity exceeds a threshold, in which case the "yes" and "no" branches of the operation **890** may be reversed. In some embodiments, acceleration of a user or device may be analyzed against a threshold rather than velocity.

Generally, operations **860-890** may be performed in any order and the order shown is but one example. Further any or all of these operations may be omitted or skipped by embodiments and any combination of these operations may be executed in various embodiments.

Operations in which the embodiment "determines" an outcome, such as operations **840** and **860-890**, may be performed by a processor **250**, **350** of the wearable audio device **110** or sensing device **120**, or the two in concert. Likewise, various operations may be performed by the components of either or both of the wearable audio device **110** and sensing device **120**, as appropriate. In some embodiments one or more operations of the method **800** may be performed by another electronic device in communication with either or both of the wearable audio device and sensing device.

The foregoing description, for purposes of explanation, uses specific nomenclature to provide a thorough understanding of the described embodiments. However, it will be apparent to one skilled in the art, after reading this description, that the specific details are not required in order to practice the described embodiments. Thus, the foregoing descriptions of the specific embodiments described herein are presented for purposes of illustration and description. They are not targeted to be exhaustive or to limit the embodiments to the precise forms disclosed. It will be apparent to one of ordinary skill in the art, after reading this description, that many modifications and variations are possible in view of the above teachings.

What is claimed is:

1. A contextual audio system, comprising:

a wearable audio device, comprising:

an audio output structure;

a receiver; and

a sensor configured to provide a signal indicating whether the wearable audio device is positioned at least partially in an ear of a user; and

a sensing device, comprising:

a transmitter in communication with the receiver; and

a position sensor configured to receive positional data; wherein:

at least one of the wearable audio device or the sensing device is configured to adjust audio output from the audio output structure in response to the positional data and the signal indicating whether the wearable audio device is positioned at least partially in the ear of the user.

2. The contextual audio system of claim 1, wherein: the wearable audio device is a first earbud;

the contextual audio system further comprises a second earbud in communication with at least one of the first earbud or the sensing device;